2-19. See below.

a. Vertical angles, , equal measure, $3x + 5° = 5x - 57°$, $x = 31°$

b. Straight angle pair, supplementary, $2x + 4x + 150° = 180°$, $x = 5°$

2-20. See below.

a. $m\angle B = m\angle C$ because the line of symmetry must pass through A (according to the marked sides of equal length) and these angles are on opposite sides of the line of symmetry.

b. Since they are equal, $m\angle B = \frac{1}{2}(124°) = 62°$

c. $71° + x = 180°$, $x = 109°$

2-21. See below.

a. Square

b. $(-4, 5)$, $(1, 5)$, $(-4, 0)$, $(1, 0)$

2-22. $y = x - 1$; no, because $1 \neq 3 - 1$

2-23. See below.

a. Vertical; they have equal measure.

b. They form a "Z."